

REMARKS

This paper is filed responsive to the office action mailed March 21, 2003. Presently, claims 1 to 20 are pending in the application. Claims 1 to 7, 9 and 18 stand rejected under 35 U.S.C. §102(b) over the Cummings et al. US Patent No. 4,744,951. Claims 10 to 17 and 19 stand rejected under 35 U.S.C. §103(a) over Cummings et al. Claim 20 stands rejected under 35 U.S.C. § 193(a) over Cummings et al. and the Spencer et al. US Patent No. 5,656,238. Applicant respectively traverses each of the rejections and request reconsideration and re-examination of the application.

Claims 19 and 20 are amended by the present amendment to correct a typographical error. They were intended to depend from claim 18 but were originally presented as depending from claim 12. This corrects the typographical error and is therefore not a narrowing amendment.

The Examiner has rejected claims 1 to 7, 9 & 18 under 35 U.S.C. §102(b) over Cummings et al. To anticipate, a prior art reference must teach each and every limitation of the claimed invention. Cummings et al. fail to teach each limitation of claim 1, and therefore fail to anticipate claim 1 and the remaining rejected claims which depend therefrom. Claim 1 defines the steps of placing an article into a chamber and selectively drawing water vapor from the chamber to increase a ratio of hydrogen peroxide to water in the chamber. Cummings et al. do not teach both placing the article into the chamber and drawing the water vapor from the same chamber. Cummings et al. employ a separate pre-chamber. Further, the solution comprising hydrogen peroxide and water in claim 1 is in fluid communication with the chamber and is vaporized in the chamber inner atmosphere. Again, Cummings et al. vaporize their solution in a pre-chamber separated from the sterilization chamber. As Cummings et al. do not teach every limitation of claim 1, Cummings et al. fail to anticipate claims 1 to 7, 9 and 18.

The Examiner has rejected claims 10 to 17 and 19 under 35 U.S.C §103(a) over Cummings et al. and claimed 20 over Cummings et al. and Spencer et al. As discussed in reference to claim 1, Cummings et al. fail to teach vaporization and selective withdrawal of water vapor in the sterilization chamber, but rather employ a separate chamber for concentrating the sterilizing media. Moving from the system taught by Cummings et al. to that claimed by applicants would not be obvious. Specifically, those of skill in the art sought to avoid having the water vapor, which would be first to vaporize, rush to occlude the narrow lumens and thereby inhibit later penetration of those lumens by the more slowly vaporizing hydrogen

peroxide. This problem is described in the Bier U.S. Patent 4, 642,165 starting at column 1, line 37. Bier actually took great pains to devise a system in which small quantities of the total volume of sterilant solution would be vaporized instantaneously to prevent the preferential vaporization of water over the hydrogen peroxide. The thinking in the art would have led the skilled artisan away from the present invention.

In contrast to the predicted theory, Applicants have found that selectively vaporizing and withdrawing the water vapor through the chamber does not appear to occlude the lumens, at least not in such a fashion as to provide poor sterilization results. As detailed in the results shown in the specification the presently claimed method actually improves sterilization results. Furthermore, it provides certain advantages over the method of Cummings et al. in that the sterilization process begins as soon as a vaporization process begins and thus overall cycle times can be reduced. One does not need to wait for the concentration process to be completed prior to initiating the sterilization process. These two processes occur somewhat simultaneously so as to improve the cycle time. This allows more cycles to be run on a given sterilizer and also allows instruments to be put back into use more quickly, both of great advantage to the user. Accordingly, the present invention would not have been obvious to the one of skill in the art and provides advantage over the closest known prior art. Applicants respectively submit that the objections are traversed.

Applicants submit that the application is presently and condition for allowance in request favorable reconsideration and early notice of allowance. If it would be helpful, the Examiner is heartily encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

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